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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application Number: 09/848,706
Filing Date: May 02, 2001
Appellant(s): ZHANG ET AL.



ZHANG ET AL.
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed Nov. 21, 2006, appealing from the Office action mailed March 18, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is

correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

| | | |
|---|---|---|
| 20010032232 | Zombek et al | 10-2001 |
| 20020097722 | Liao et al | 7-2002 |

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5, 8-15, 18-21, and 25-33 are rejected under 35 USC 102(e) as being anticipated by Zombek et al., (PG PUB 2001/0032232).

Regarding claim 1, Zombek teaches a system comprising:

- a network server, to provide media content on request through a wireline network (Zombek, [0021], l. 9-21)
  note: henceforth, the line number is starting from 1 at each section.
- a wireless host, to request media content through a wireless network (Zombek, [007], l.1-3,[0018], l.12-15); and
- a network gateway, coupled to each of the server and the wireless host, to establish a communication channel from the

server to the wireless host through both the wireline network and the wireless network, wherein the communication channel includes a transport layer protocol with control parameters for each of the wireline network and the wireless network (Zombek, [0021], l.9-11).

Regarding claim 2, Zombek further discloses a system according to claim 1, wherein the transport layer protocol of the communication channel enables the network gateway to distinguish transmission problems occurring within either network component of the communication channel (Zombek, [0018], l.12-22).

Regarding claim 3, Zombek further discloses a system according to claim 1, wherein the network server comprising:

- A transmission rate controller to receive media content from an application and control transmission over the wireline network (Zombek, [0183], l.1-4,[0606], l.1-7); and
- A congestion controller, to receive congestion control indication from the network gateway in the transport protocol, estimate the available bandwidth over the network, and to instruct the transmission rate controller to adjust the transmission rate accordingly (Zombek, [0435], l.13-15).

Regarding claim 4, Zombek further discloses a system according to claim 1, the network server further comprising:

- An application error control interface, to receive a bit-error rate (BER) control parameter from the network gateway via the transport protocol denoting the bit-error rate (BER) experienced at the wireless host (Zombek, [0433], l.6-11); and
- A partial checksum generator, responsive to the application error control interface, to generate checksum of a dynamically selected amount of the requested content for inclusion in at least a subset of transmitted frames for error control purposes based, at least in part, on the received BER control parameter (Zombek, [0011], l.9).

Regarding claim 5, Zombek further discloses a system according to claim 4, the partial checksum generator includes more data in the partial checksum when the BER increase, less data when the BER decreases (Zombek, [0175], l.1-3, "...segments size can be segmented into multiple message segments...", for each partial segments the partial checksum will be calculated by the checksum function, therefore when BER increase, the retransmission will be increased, and the retransmission decrease when BER decrease ).

Regarding claim 8, Zombek further discloses a system according to claim 1, the wireless host comprising:

- A header analyzer, to analyze at least a partial checksum in a header of a received frame of media content to determine whether an accurate frame was received (Zombek, [0209], [0210], [0211], [0212]); and

- A bit error rate (BER) controller, coupled to the header analyzer, to generated a BER control parameter for the network gateway via the transport layer protocol denoting a running average of accurately received frames (Zombek, [0553], l.5-11).

Regarding claim 9, Zombek further discloses a system according to claim 1, the Network gateway comprising:

- A congestion monitor, to monitor congestion of the communication channel, and to issue a congestion control parameter to the network server via the transport layer protocol (Zombek, [0435], l.14-15).

Regarding claim 10, Zombek further discloses a system according to claim 1, the network gateway comprising:

- A buffer, to receive frames of media content from the network server via the wireline network component of the communication channel, and to selectively provide frames of the received media content to the wireless host via the wireless network component of the communication channel (Zombek, [0008], l.12-14).

Regarding claim 11, Zombek further discloses a system according to claim 10, the network gateway further comprising:

- A weighted scheduling module, coupled to the buffer, to schedule delivery of media content from the buffer to the wireless host based on their priority (Zombek, [0005], l.1-4, [0215], l.14-18).

Regarding claim 12, Zombek further discloses a system according to claim 10,

the network gateway further comprising:

- One or more retransmission modules, coupled to the buffer, to receive on or more of a negative acknowledgement (NACK) control parameter and/or a fading control parameter and determine whether the requested retransmission of one or more frames can be accommodated (Zombek, [0008], l.20-25, [0186], l.1-11)

Regarding claim 13, Zombek further discloses a system according to claim 12, Wherein the one or more retransmission modules determine whether the requested retransmission may occur by determining whether a start frame, identified within the received control parameter, is available within the buffer (Zombek, [0185], l.1-12).

Regarding claim 14, Zombek further discloses a system according to claim 1, wherein the transport layer protocol comprises:

- A congestion control parameter, generated by the network gateway in response to congestion detected along the communication channel (Zombek, [0433], l.1-5, [0435], l.12-16].

Regarding claim 15, Zombek further discloses a system according to claim 1, wherein the congestion control parameter is sent to the server for purpose of throttling transmission of the media content (Zombek, Fig. 6B).

Regarding claim 18, Zombek further discloses a system according to claim 1, wherein the transport layer protocol comprises:

- A negative acknowledgment (NACK) control parameter, generated by the wireless host to denote one or more frames of media content received with an unacceptably high bit-error rate (BER) (Zombek, [0433], l.6-11).

Claim 19 has similar limitation as claim 1. Therefore, claim 19 is rejected under Zombek for the same reason set forth in the rejection of claim 1.

Claim 20 has similar limitation as claim 3. Therefore, claim 20 is rejected under Zombek for the same reason set forth in the rejection of claim 3.

Claim 21 has similar limitation as claim 14. Therefore, claim 21 is rejected under Zombek for the same reason set forth in the rejection of claim 14.

Claim 25 has similar limitation as claim 18. Therefore, claim 25 is rejected under Zombek for the same reason set forth in the rejection of claim 18.

Regarding claim 26, Zombek further discloses a system according to claim 25, Further comprising:

- Identifying whether the frame denoted in the NACK control parameter is still available in a buffer of received media content (Zombek, [0552], l.1-5);
- Calculating a delay measure when a NACK control parameter is received (Zombek, [0010], l.21-24); and
- Retransmitting the frame from the buffer to the wireless host if if is identified within the buffer (Zombek, [0435], l.1-4);

- The delay measure not exceeding a threshold (Zombek, [0183], l.1-5).

Regarding claim 27, Zombek further discloses a system according to claim 25, wherein calculating the delay measure comprises:

- Identifying the start time of the frame denoted in the NACK control parameter (Zombek, [0128], l.9-11); and
- Subtracting the start time from the current project time to quantitatively measure what kind of delay would be incurred by retransmitting the lost frames (Zombek, [0183], l.5-9).

Regarding claim 28, Zombek further discloses a computer-readable medium having computer-executable instructions that, when executed by a computer, performs the method as recited in claim 19 (Zombek, [0036], l.10-21).

Claim 29 has similar limitation as claim 28. Therefore, claim 29 is rejected under Zombek for the same reason set forth in the rejection of claim 28.

Claim 30 has similar limitation as the combination of claims 3, 6, and 8. Therefore, claim 30 is rejected under Zombek for the same reason set forth in the rejection of claims 3, 6, and 8.

Claims 31 and 32 have similar limitation as claims 28-29. Therefore, claims 31-32 are rejected under Zombek for the same reason set forth in the rejection of claim 28-29.

Claim 33 has similar limitation as claim 1. Therefore, claim 33 is rejected under Zombek for the same reason set forth in the rejection of claim 1.

Claims 6-7, 16-17, 22-24 are rejected under 35 USC 103(a) as being unpatentable over Zombek as applied to claim 1 above, and further in view of Liao et al., (PG PUB 2002/0097722).

Zombek differs from the claimed invention in that it fails to specify fading timeout Monitor. Liao teaches the system to identify degradation in transmission quality in the wireless network component resulting from fading and/or multipath conditions, and to issue a fading condition control parameter to the network gateway via the transport layer protocol (Liao, [0104], l.1-11).

It would have been obvious to one of ordinary skill in art at the time the invention was made to combine the teaching of Liao with the system of fading monitor, since Liao teaches the transport layer protocol header in a speedy, efficient way that increase the network throughput.

Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zombek and Liao as applied to claims 6-7, 16-17 above.

**(10) Response to Argument**

The examiner summarizes the various points raised by the appellant and replies individually.

The appellant is arguing the following:

1) Re claim 1, Appellant argues that Zombek fails to teach gateways to establish a communication channel from the server to the wireless host through both the wireline network and the wireless network wherein the communication

channel includes a transport layer protocol with control parameters for each of the wireline network and the wireless network. " .

Appellant's argument has been considered but is not persuasive. At paragraph [0423], and in fig.6A, Zombek teaches message flow that corresponds to a client application (in a wireless network) request to backend server (BES, in wireline network, see fig. 1a). The diagram shows that upon receiving the REQ message, the protocol gateway 116 can assemble the message segment and send an application message to the message router, when the BES receives the application message and sends an ACK back to protocol gateway (see paragraph [0427]). Upon receiving the ACK message from BES, the protocol gateway sends a ACK message client at client device 112. Moreover, at paragraph [0433], Zombek teaches the SNTL layers is implemented and SNTL, a transport layer protocol ( see fig.3, layer 4 - a transport layer), can provide useful transport functions, congestion controls (parameters, see [0435]). Therefore, Zombek teaches gateways to establish a communication channel from the server to the wireless host through both the wireline network and the wireless network wherein the communication channel includes a transport layer protocol with control parameters for each of the wireleine network and the wireless network.

2) Re claim 19, Appellant argues that Zombek fails to teach "establishing a communication channel to service the request between the wireless host and the network server over a wireless network and a wireline network coupled to the

server".

Appellant's argument has been considered but is not persuasive. As discussed above, at paragraph [0423], and fig.6A, Zombek teaches message flow that corresponds to a client application (in wireless network) request to backend server (BES, in wireline network, see fig. 1a). The diagram shows that upon receiving the REQ message, the protocol gateway 116 can assemble the message segment and send application message to the message router, when the BES receives the application message and sends an ACK back to protocol gateway (see paragraph [0427]). Upon receiving the ACK message from BES, the protocol gateway sends a ACK message client at client device 112. Therefore, Zombek teaches establishing a communication channel to service the request between the wireless host and the network server over a wireless network and a wireline network coupled to the server.

3) Re claim 30, Appellant argues that Zombek fails to teach the preamble " a transport layer protocol to facilitate streaming of media content across heterogeneous networks, the protocol promising..." and "transport layer protocol ... comprising .... a fading parameter".

Appellant's argument has been considered but is not persuasive. The recitation "a transport layer protocol to facilitate streaming of media content across heterogeneous networks, the protocol promising..." has not been given patentable weight, because, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a

structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In the instant case the preamble to claim 30 merely sets forth the intended use of the protocol.

4) Re claim 33, that Zombek fails to teach the preamble " .... the protocol **generated** ...." as recited in claim 33".

Appellant's argument has been considered, but is not persuasive as preambles are given no patentable weight when they merely recite intended use as discussed about in response to item 3.

5) Re claim 6, that the combination of Zombek in view of Liao provides no assistance to the recited claim 6, because Zombek does not teach "a network gateway .. to establish a communication channel ...." .

Appellant's argument has been considered, but is not persuasive. Zombek does teach a network gateway .. to establish a communication channel...". as discussed above in response to item 1.

6) Re claim 22-24, the appellant provides the same argument as claim 19. See response to item 2 above.

As to point 6), the appellant provides the same argument as claim 19, it has been considered but is not persuasive. The argument has been discussed at point 2). Therefore, the rejection of claim 22-24 is maintained.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the related Appeals and Interferences section of this examiner's answer.

**(12) Conclusions**

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Kelvin Lin 3/1/07

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